

BEST AVAILABLE COPY**Amendments to the claims:****COMPLETE LISTING OF ALL CLAIMS IN THE APPLICATION**

Claims 1-17 (canceled).

18. (currently amended) A device for thermally treating at least one optical waveguide; said device comprising:

a radiation source ~~configured to thermally treat at least one optical waveguide;~~

a first optical system configured to direct a beam, emitted by the radiation source, onto the optical waveguide from a first side, wherein the first optical system generates a beam profile of the beam whose extent in the transverse direction with respect to a longitudinal axis of the optical waveguide corresponds to at least twice a diameter of the optical waveguide, the optical waveguide is positioned completely outside a center axis of the beam profile in the transverse direction with respect to the longitudinal axis of the optical waveguide in the focusing area of the beam inside which the radiation strikes the optical waveguide; and

a second optical system which is positioned behind the optical waveguide in the direction of a beam path of the beam and which reflects radiation which is transmitted past the side of the optical waveguide and directs it onto the optical waveguide from a second side;

wherein the second optical system is configured to image the beam profile in a non-inverted fashion in the plane parallel to the longitudinal axis of the optical waveguide with an approximate ratio of 1:1 and to image the beam profile in an inverted fashion in the plane extending transversely with respect to the longitudinal axis of the optical waveguide with an approximate ratio of 1:1.

19. (canceled).

20. (canceled).

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21. (currently amended) The device as claimed in claim 18, wherein the second optical system comprises a plane mirror and an aspherical lens, ~~wherein the lens is arranged between the optical waveguide and the plane mirror.~~

22. (previously presented) The device as claimed in claim 21, wherein the aspherical lens has two different focal lengths in the plane parallel to the longitudinal axis of the optical waveguide and in the plane extending transversely with respect to said longitudinal axis.

23. (previously presented) The device as claimed in claim 21, wherein the plane extending transversely with respect to the longitudinal axis of the optical waveguide a focal length of the aspherical lens is essentially equal to the distance between the lens and the optical waveguide.

24. (currently amended) The device as claimed in claim 18, wherein the second optical system comprises a plane mirror and two cylindrical lenses, ~~the lenses are arranged between the optical waveguide and the plane mirror,~~ a first lens of the lenses does not have any refractive power in a plane parallel to a longitudinal axis of the optical waveguide, and a second lens of the lenses does not have any refractive ~~force~~ power in a plane extending transversely with respect to said longitudinal axis.

25. (previously presented) The device as claimed in claim 18, wherein the second optical system comprises a plane mirror, a spherical lens and a cylindrical lens, the lenses are arranged between the optical waveguide and the plane mirror, the spherical lens has the same refractive power in a plane parallel to a longitudinal axis of the optical waveguide and in a plane extending transversely with respect to said longitudinal axis, and the cylindrical lens does not have any refractive power in one of the planes.

26. (previously presented) The device as claimed in claim 24, wherein a focal length of one of the lenses is essentially equal to the distance between this lens and the optical waveguide in the plane extending transversely with respect to the longitudinal axis of the optical waveguide.

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27. (canceled).

28. (currently amended) ~~The device as claimed in claim 27;~~ A device for thermally treating at least one optical waveguide; said device comprising:

a radiation source;

a first optical system configured to direct a beam, emitted by the radiation source, onto the optical waveguide from a first side, wherein the first optical system generates a beam profile of the beam whose extent in the transverse direction with respect to a longitudinal axis of the optical waveguide corresponds to at least twice a diameter of the optical waveguide, the optical waveguide is positioned completely outside a center axis of the beam profile in the transverse direction with respect to the longitudinal axis of the optical waveguide in the focusing area of the beam inside which the radiation strikes the optical waveguide; and

a second optical system which is positioned behind the optical waveguide in the direction of a beam path of the beam and which reflects radiation which is transmitted past the side of the optical waveguide and directs it onto the optical waveguide from a second side;

wherein the second optical system comprises a cylindrical mirror which is concave in a plane extending transversely with respect to a longitudinal axis of the optical waveguide and a cylindrical lens arranged between the optical waveguide and the cylindrical mirror, the cylindrical lens does not have any refractive power in the plane extending transversely with respect to a longitudinal axis of the optical waveguide, and the cylindrical mirror is planar in a plane parallel to the longitudinal axis of the optical waveguide; and

wherein ~~the plane extending transversely with respect to the longitudinal axis of the optical waveguide~~ a focal length of the cylindrical mirror is essentially half the distance between the cylindrical mirror and the optical waveguide ~~in the plane extending transversely with respect to the longitudinal axis of the optical waveguide.~~

29. (canceled).

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30. (currently amended) ~~The device as claimed in claim 29, A device for thermally treating~~
at least one optical waveguide; said device comprising:

a radiation source;

a first optical system configured to direct a beam, emitted by the radiation source, onto the optical waveguide from a first side, wherein the first optical system generates a beam profile of the beam whose extent in the transverse direction with respect to a longitudinal axis of the optical waveguide corresponds to at least twice a diameter of the optical waveguide, the optical waveguide is positioned completely outside a center axis of the beam profile in the transverse direction with respect to the longitudinal axis of the optical waveguide in the focusing area of the beam inside which the radiation strikes the optical waveguide; and

a second optical system which is positioned behind the optical waveguide in the direction of a beam path of the beam and which reflects radiation which is transmitted past the side of the optical waveguide and directs it onto the optical waveguide from a second side;

wherein the device is configured in such a way that a plurality of optical waveguides which are arranged one next to the other can be treated thermally in parallel, in particular can be welded in parallel with optical waveguides lying correspondingly opposite; and

wherein a distance between two optical waveguides lying one next to the other corresponds to at least a diameter of the optical waveguide, the extent of the beam profile extending transversely with respect to a longitudinal axis of one of the optical waveguides in the focusing area corresponds to at least the sum of the diameters of all the optical waveguides lying one next to the other and of the intermediate distances, wherein the beam profile extends over an outermost optical waveguide by a length of the order of magnitude of at least one diameter of one of the optical waveguides.

31. (currently amended) The device as claimed in claim 29 30, wherein the optical waveguides lying one next to the other are arranged on the opposite side of a center axis of the beam profile, the extent of the beam profile extending transversely with respect to a longitudinal axis of one of the optical waveguides in the focusing area corresponds to at least twice the sum of the diameters of all the optical waveguides lying one next to the other and of the intermediate distances.

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32. (previously presented) The device as claimed in claim 18, wherein a plane extending transversely with respect to a longitudinal axis of the optical waveguide an angle is provided between an optical axis of the first optical system and an optical axis of the second optical system.

33. (previously presented) The device as claimed in claim 18, wherein the first optical system has a diffractively acting optical element.

34. (previously presented) The device as claimed in claim 18, wherein the first optical system has an optical component for directing the beam onto the optical waveguide to be spliced, the device has a drive device for the optical component, wherein the optical component can be moved with the aid of the drive device in such a way that a position of the focusing area of the beam can be shifted in its longitudinal direction, in particular can be moved periodically.